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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|-----------------------|---------------------|------------------|
| 10/643,661 | 08/19/2003 | William R. Kelley JR. | DKT01053 | 8203 |
| 42595 | 7590 | 06/01/2005 | EXAMINER | |
| BORGWARNER INC. PATENT DEPARTMENT 3850 HAMLIN ROAD AUBURN HILLS, MI 48326-2872 | | | RODRIGUEZ, SAUL | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3681 | |

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/643,661 | Applicant(s) KELLEY ET AL. | |
| | Examiner Saúl J. Rodríguez | Art Unit 3681 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 1-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 15-18 and 20-24 is/are rejected.
- 7) ☒ Claim(s) 19 and 25 is/are objected to.
- 8) ☐ Claim(s) _ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

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DETAILED ACTION

The following office action is responsive to the communication filed March 15, 2005.

Election/Restrictions

Applicant's election without traverse of Figures 2 and 3 in the reply filed on October 8, 2004 is acknowledged.

Claims 3, 4, and 8-14 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on October 8, 2004. Claims 1, 2, 5, 6, and 7 are also withdrawn as claiming a permanent magnet actuator (Fig. 5).

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The claim terminology is inconsistent with that of the specification. For example, it is the primary output shaft (60) that is splined (184) to a first rotatable member (182). The claims appear to contradict that notion reciting a secondary output coupled to a secondary rotatable member splined to an output shaft (note: the secondary output member (216) according to the specification is a one-piece

freely rotatable sprocket connected via an endless element (164) to the secondary output). Clarification is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recitation of "a plurality of permanent magnets" is incongruous with the previous recitation of "a permanent magnet" of claim 1. The indirect limitation renders the scope of the claims unascertainable.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

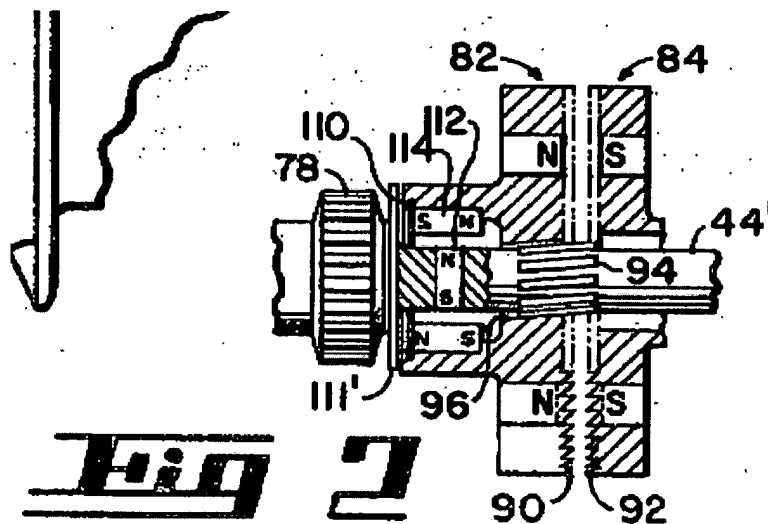
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 15, 17-18, 20-23 and, as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Bird et al. ('064).

Bird discloses a synchronizer and clutch (Fig. 2) comprising a first rotatable member (44) with axially extending engageable teeth (94), a second rotatable member

(84) with engageable teeth (92), a clutch collar (87), a plurality of permanent magnets coupled to the second member, an induction member (98), a magnetic spring (102), and a spline between shafts (38, 44).



Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 16 and 22, as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Bird et al. ('064) in view of Baxter, Jr. ('758).

Bird does not show the synchronizer/clutch being used in a transfer case. Even though it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from

a prior art apparatus satisfying the claimed structural limitations (*Ex parte Masham*, 2 USPQsd 1647 (1987)), it is noted that Baxter discloses a transfer case clutch with permanent magnets for controlling the relative rotation between a primary and secondary output shaft (36, 52). Then, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the clutch of Bird in a transfer case as taught by Baxter to control the rotation between the front and rear wheels of a vehicle.

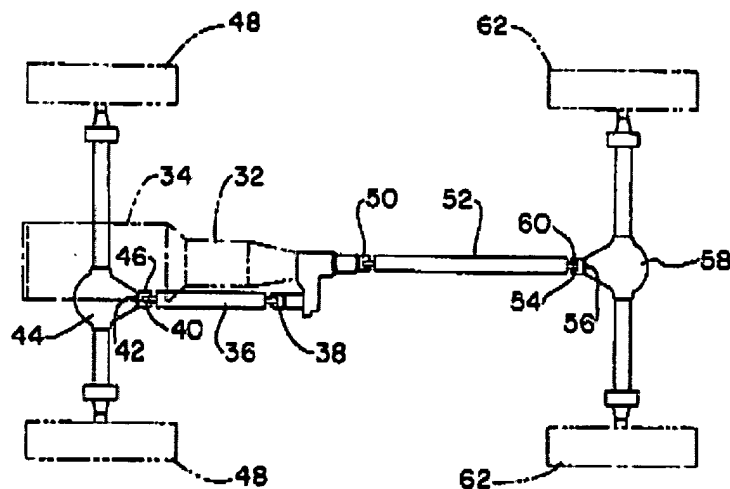
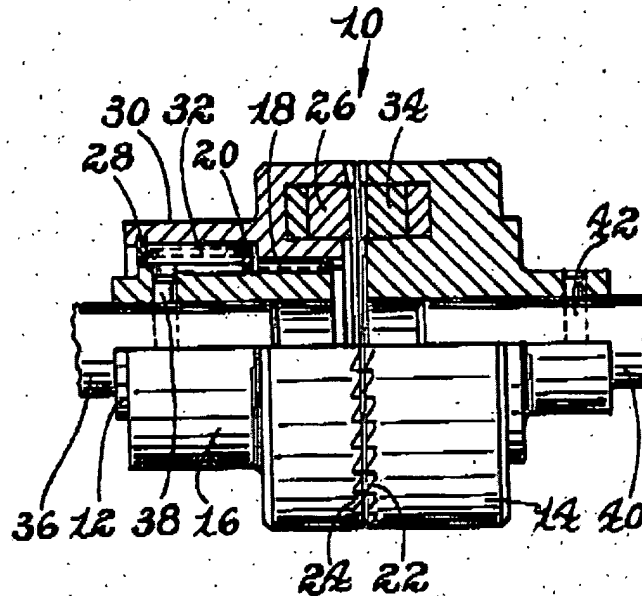


FIG.-7

Claim 24, as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Bird et al. ('064) in view of Miller ('373).

Bird does shows a magnetic spring instead of a compression spring for controlling the motion of the collar. Miller, on the other hand, discloses what is considered an art recognized equivalent compression spring (32) for controlling the movement of a collar on a magnetically synchronized clutch. Then, it would have been

obvious to a person of ordinary skill in the art at the time the invention was made to use a coil spring in the device of Bird in view of Miller to provide if necessary an increasingly larger bias to the collar member.



Allowable Subject Matter

Claim 19 and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

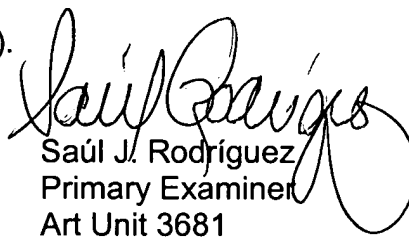
Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kelbel ('354) discloses a another synchronizer having magnetic means.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saúl J. Rodríguez whose telephone number is (571) 272-7097. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on (571) 272-7095. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Saúl J. Rodríguez
Primary Examiner
Art Unit 3681


SJR